

WHAT IS CLAIMED IS:

1. A dual light source voltage-modulated reciprocal control circuit for a scanner,  
comprising:

a voltage-modulation circuit for generating a modulation voltage whose  
5 magnitude may be adjusted according to a square wave having pulse width modulation  
capacity;

a first lamp driving circuit for receiving the modulated voltage and driving  
a first lamp;

a second lamp driving circuit for receiving the modulated voltage and  
10 driving a second lamp; and

a reciprocal control circuit for sending the modulated voltage to the first  
lamp driving circuit or the second lamp driving circuit according to the dictate of a  
reciprocal logic signal.

2. The circuit of claim 1, wherein the first lamp includes a back light.

15 3. The circuit of claim 1, wherein the second lamp includes a cover light.

4. The circuit of claim 1, wherein the first lamp driving circuit and the second  
lamp driving circuit are dc-to-ac inverters for converting a direct current source to an  
alternating current source.

5. The circuit of claim 1, wherein the reciprocal control circuit further includes an  
20 application specific integrated circuit.

6. The circuit of claim 1, wherein the reciprocal control circuit comprises of a  
common emitter circuit and a Darlington circuit.

7. The circuit of claim 6, wherein the common emitter circuit further comprising:

a first resistor having a first terminal for receiving the reciprocal logic signal;

a second resistor having a first terminal connected to a voltage source;

a first transistor having a voltage source coupled to a second terminal of the first resistor and a loading terminal coupled to ground; and

a second transistor having a voltage source coupled to an earth terminal of the second lamp driving circuit, a control terminal coupled to a second terminal of the second resistor and a loading terminal coupled to ground.

8. The circuit of claim 6, wherein the Darlington circuit further comprising:

a first resistor having a first terminal for receiving the reciprocal logic signal;

a second resistor having a first terminal coupled to a second terminal of the first resistor;

a third resistor having a first terminal coupled to a second terminal of the second resistor and a second terminal coupled to ground;

a first transistor having a voltage terminal coupled to an earth terminal of the first lamp driving circuit, a control terminal coupled to a second terminal of the first resistor and a loading terminal coupled to the second terminal of the second resistor; and

a second transistor having a voltage terminal coupled to an earth terminal of the first lamp driving circuit, a control terminal coupled to the second terminal of the second resistor and a loading terminal coupled to ground.

9. The circuit of claim 8, wherein the Darlington circuit includes an integrated circuit (IC) having the IC label ULN2003.